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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,902	01/11/2002	Zvi H. Meiksin	56137533-3	7219
26453	7590	07/28/2005	EXAMINER	
BAKER & MCKENZIE LLP 805 THIRD AVENUE - 29TH FLOOR NEW YORK, NY 10022			NGUYEN, THUAN T	
			ART UNIT	PAPER NUMBER
			2685	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/043,902	<b>Applicant(s)</b> MEIKSIN ET AL.	
	<b>Examiner</b> THUAN T. NGUYEN	<b>Art Unit</b> 2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 76-95 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 76-95 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 76-95 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 76-79, 83-84, and 93-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anders et al. above in view of Stolarczyk (US Patent 4,777,652).

Regarding claim 76, Anders discloses "a communication system for communicating between the surface and underground areas where amount of energy used for communication is limited" (LIMIS system is applied for a variety of application including mining where the communication takes place between the surface and the underground areas, as illustrated in Fig. 1-2, 5 & 17 and col. 1/lines 5-17, col. 6/line 43 to col. 7/line 52 for oil and mining industry applications, and col. 33/lines 27-58) comprising: "a modulator for modulating a single sideband carrier signal" (Fig. 2 for a passive transceiver regarding as a remote repeater comprising modulator 28 for receives and provides single sideband carrier signal, col. 21/lines 35-65; and as in Fig. 6 for a repeater also equipped with a modulation unit 79) and "a first amplifier coupled to the

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modulator to amplify signals received from the modulator; and an antenna coupled to the first amplifier to receive amplified signals from the first amplifier, the antenna being tuned with a series capacitor to reduce impedance and the antenna being coupled by magnetic flux linkage to a second antenna for communicating to a second system coupled to the second antenna, wherein low energy input into the antenna is communicated to the second system via the second antenna” (Fig. 6, amplifier unit 71 is coupled to the modulation unit via a delay unit 78, further including an antenna unit 80; and antennas are charging its capacitors to reduce impedance for communicating to other antennas underground, see col. 15/line 63 to col. 16/line 37, with antennas are coupled by magnetic flux linkage, as shown in Fig. 17, and col. 19/lines 50-55 as Electromagnetic radiation EMR is addressed).

Applicant argues that Anders does not teach to have single sideband SSB for this underground mining system; however, the technique using SSB for reduced power level within the underground mining system is known, and in fact, Stolarczyk teaches an exact same technique (Figs. 1, 4, and col. 1/line 55 to col. 2/line 8, and col. 4/line 45 to col. 5/line 27 for the underground mining system). Therefore, it would have been obvious to one of ordinary skill in the art to modify Anders’ system with a known technique as taught by Stolarczyk for using and modifying SSB as a communication means for communicating between users and base stations in a low electrical power (refer to col. 2/lines 32-50).

As for claim 77, in view of claim 76, Anders discloses “wherein the system further includes: an output device coupled to the first amplifier, and the antenna has a

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switched connection to the modulator and the first amplifier, wherein the antenna's connection can be switched between the first amplifier and the modulator, and the signals received at the antenna are demodulated by the modulator and amplified by the first amplifier and applied to the speaker for output", i.e., a supervisor unit regarding as the output device for coupling to the amplifier of either the passive transceiver (Fig. 1) or the repeater relay (Fig. 6), and the antenna can be switched between the first amplifier and the modulator (as shown in Fig. 2 under switch 20) and the supervisor unit can monitor and listen from connected devices whether passive or active devices (Figs. 26 & 27, and col. 37/line 5-59).

As for claims 78-79, in view of claim 76, Anders discloses "wherein the modulator includes a single sideband modulator and a second amplifier coupled to the single sideband modulator, wherein the second amplifier receives signals representing voice input and transmits the signals to the single sideband modulator" (col. 21/lines 35-65 as single sideband system is addressed).

As for claim 84, Anders discloses "wherein the first amplifier includes: a preamplifier to receive signal from the single sideband modulator; and a power bridge amplifier coupled to the preamplifier and the antenna, wherein the power bridge amplifier receives the signal amplified by the preamplifier and applies the signal to the antenna with current" (Fig. 6 for a passive power unit 84 for charging the unit or as a power bridge amplifier coupled to the repeater relay power unit 82 as the preamplifier and to the antenna unit 81).

As for claims 93-95, Anders discloses these claims for the steps of “including a relay coupled to the antenna, the relay enabled to connect and disconnect the antenna from coupling with the signal processor”; “including a switch coupled the relay to control the relay”; and “further including a relay coupled to the antenna, the relay enabled to connect and disconnect the antenna from coupling with the first amplifier” (Fig. 6 for a delay unit and a switch, an antenna and related issues in col. 25/line 18-col. 26/line 7).

4. Claims 80-83 and 88-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anders et al. above in view of Stolarczyk (US Patent 4,777,652) and Halik et al. (US Patent 5,325,401).

Regarding claims 80-82, in view of claim 79, Anders does not mention “wherein the second amplifier includes an automatic gain control amplifier”; “wherein the second amplifier includes an analog gain control amplifier”; and “wherein the second amplifier includes a digital gain controller”; however, this is known in the art. In fact, Halik discloses to use an AGC amplifier for a receiving system (Fig. 2/AGC amplifier 20, and col. 5/line 55 to col. 6/line 52 for either analog gain or digital gain since a A/D converter is included). Therefore, it would have been obvious to one of ordinary skill in the art to modify Anders’ system with known features as applied AGC amplifier either for analog gain or a digital gain with VCO as taught by Halik in order to control and provide predetermined gain for amplifier either analog gain or digital gain as desired.

As for claim 83, in further view of claim 80 above, Halik teaches “includes a digital signal processor” (DDS, col. 3/lines 16-28 for digital signal processing).

As for claims 88-90, in further view of claim 80 above, Halik further teaches “including a filter coupled to the modulator, wherein the signal is filtered to be within a predetermined range”; “wherein the filter a passive filter”; and “further including an active filter coupled to the passive filter” (Fig. 2, and col. 5/line 55 to col. 6/line 52).

5. Claims 85-87 and 91-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anders et al. and Stolarczyk (US Patent 4,777,652).

Regarding claims 85-87, in view of claim 76, Anders and Stolarczyk do not disclose “wherein the modulator includes a frequency-shift-keying modulator”; “wherein the modulator includes a phase-shift-keying modulator”; and “wherein the modulator includes a quadrature phase-shift-keying modulator”; however, the Examiner takes an official notice that it is well known in the art because it’s simply a design choice in the modulating technique of selecting or choosing whether a frequency-shift-keying (FSK), a phase-shift-keying (PSK) or a quadrature phase-shift-keying (QPSK) modulation is used and a corresponding modulator is included. Therefore, it would have been obvious to one of ordinary skill in the art to modify Anders and Stolarczyk’ system with known features of modulation as noted in order to use different modulators for a number of well known modulation techniques in transmitting signals over a certain medium.

As for claims 91-92, Anders does not teach “further including a comb filter coupled to the modulator, the comb filter enabled to track drifting noise of selected frequency and their harmonics” and “including a tracking comb filter coupled to the modulator, the tracking comb filter enabled track drifting noise of selected frequency and

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their harmonics”; however, the Examiner takes an official notice that it is well known in the art because it’s simply a design choice in applying a tracking comb filter in order to track drifting noise of selected frequency and their harmonics as a monitoring tool.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Anders’ system with known features of tracking comb filter within the communication system for tracking drifting noise of selected frequency and their harmonics as a monitoring tool for alerting any noises or disturbances as desired.

### ***Conclusion***

**6. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 872-9306, (for Technology Center 2600 only)

**7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (571) 272-7895.**

The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tony T. Nguyen', with a stylized flourish at the end.

**TONY T. NGUYEN  
PATENT EXAMINER**

Tony T. Nguyen  
Art Unit 2685  
July 21, 2005